

PORT PHILLIP SURVEY 1957—1963.

SCLERACTINIA.

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SUMMARY.

In contrast to the Great Barrier Reef, the corals of southern and western Australia are poorly known. The present paper reviews the brief literature and discusses known distribution. In the discussion hermatypic corals occurring from Port Jackson south to Bass Strait and westward to Cape Leeuwin are considered and the ahermatypic corals recorded as occurring in Port Phillip are listed.

INTRODUCTION.

At the kind invitation of Miss J. Hope Macpherson, I examined the corals collected in the course of the ecological survey of Port Phillip, Victoria, Australia. Because the littoral coral fauna of the southern coast of Australia is poorly known, the specimens are of especial interest. Over 75 years ago, the Reverend J. E. Tenison-Woods (1878, p. 292) remarked "I may say that the extratropical *Madreporaria* of Australia have been literally untouched". This statement applies as well to-day to our knowledge of the corals of the southern and western coasts, in distinct contrast to that resulting from the increasing number of studies of the Scleractinia of the Great Barrier Reef.

Wells (1955a) has reviewed the distribution of the hermatypic (reefforming) corals of the Great Barrier Reef. He demonstrated that the vast coral fauna of this reef diminishes from a total of 60 genera (approximately 350 species) to six genera (about 10 species) in the distance from Bramble Cay to Port Jackson (recent work will enlarge these numbers, e.g. Wells, 1962). The decrease in variety of the fauna is, in the main, attributable to changes in environmental necessities of the hermatypic corals, which require warm, aerated, brightly lit waters. It is commonly stated that a minimum annual mean temperature of not less than 18° C. is required for the vigorous growth and development of the reef and its constituent corals. Individual component species of the reef fauna, being more tolerant of temperature, however, stray beyond the limits of the reef proper. This extension is not abrupt, but gradual, with species interrelationships changing with the environment (Squires, 1959).

Ahermatypic corals, on the other hand, are not so stringently limited. Indeed, some genera range from polar seas to the tropics and may be collected from shallow waters a few metres deep to nearly abyssal depths. Distributional data for these corals are even more incomplete than those for the hermatypic, and inferences concerning environmental factors affecting their distribution, drawn from records of their occurrence, must be treated with caution because of the wide spectrum of ecologies through